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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,703	01/15/2004	Francois Lacoste	91301	4489
24628 7590 02/09/2007 WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606			EXAMINER KHOLDEBARIN, IMAN K	
			ART UNIT 3709	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/09/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/757,703

Applicant(s)

LACOSTE ET AL.

Examiner

I Kenneth Kholdebarin

Art Unit

3709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :06/02/2006-06/01/2004-03/26/2004.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: ref. no. 2 (Conduits) on page 7, line 8; ref. no. 3 (temperature sensor) on page 7, line 9; in the specification.
2. The drawings are objected to because in Figs. 7 and 8, the most parts of the invention are designated with terms rather than reference numerals. Proper reference numerals are suggested to be replaced with the terms.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1- 3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Oakley (US 5,335,663).

Re claim 1: Oakley discloses a laparoscopy probe (20) having at least one planar transducer, (planar curve transducer (34)), (See Figs. 1A; col.4, lines 62-65).

Re claim 2: Oakley discloses the probe body has a channel / lumen (52) for inserting an ultrasound angiography probe, (See Fig. 2A; Col. 9, lines 52-59).

Re claims 3 and 8: Oakley discloses the probe having a plurality of transducers (76) and a flexible or articulated body (See Fig. 4; col.4, lines 9-12).

5. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Davison (US 5,322,055).

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Re Claim 13: Davison discloses a coagulation apparatus (Fig. 1a) having an ultrasound transducer / (ultrasound system (10) with transducer) and a scalpel blade (20) movable with respect to said transducer, (See Fig.1; col.7, line 41-49).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-7 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oakley in view of Pederson (US 4,206,763). The teachings of Oakley have been discussed above.

Re Claim 4, 6, 9 and 11: However, Oakley fails to disclose or fairly suggest having a channel that opens in the region of transducer, adapted to transmit a partial vacuum.

Pederson teaches the method of using partial vacuum in the region of ultrasound transducer in medical imaging, (See col.6; lines 5-10).

Therefore, in view of Pederson, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Oakley's probe with containment chamber comprising a channel with partial vacuum in order to reduce the movement of the tissue during the examination and transducing ultrasonic signals.

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Re Claims 5, 7, 10 and 12: Although Oakley modified by Pederson fails to specifically disclose the probe with having an opening of channel surrounds the transducer, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the opening of the lumen next to the transducer, in order to transmit partial vacuum through the channel to minimized the movement of the targeted tissue and as a result make the examination more reliable, because the ultrasonic pulses can be aimed at a stationary target.

8. Claims 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davison in view of Driscoll Jr. (US 5,882,302). The teachings of Davison have been discussed above.

Re Claim 14: However, Davison fails to disclose or fairly suggest the coagulation apparatus having an imaging transducer.

Driscoll Jr. teaches to have the ultrasonic imaging transducer (28) integrally part of the coagulation apparatus, (See Fig. 5; col.4, lines 45-53).

Therefore, in view of Driscoll Jr., it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Davison's ultrasound transducer with an imaging ultrasound transducer in order to allowing the device to be easily aimed towards the internal bleeding site.

9. Claims 15-23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lafon (US 6,379,320).

Re Claims 15-18: Lafon discloses a coagulation instrument (Fig. 1) having planar ultrasound transducer (8), mounted in the region of an end of cable wherein the

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coagulation instrument has a diameter less than 1 to 5 mm (col. 7 line 2-5). Lafon further discloses instrument to be flexible, (col.7 line 59-65).

Re claim 19: Lafon discloses a coagulation instrument having a planar ultrasound transducer (8), mounted in the region of an end of a cable and a cooling and coupling fluid circuit (25), with fluid inlet (24) and outlet (28) openings, (See Fig.1; col. 5, line 45-47).

Although Lafon fails to specifically disclose a probe without membrane, as recited in claim 15 and 19 at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have a transparent membrane because applicant has not disclosed that probe without membrane provides an advantage, used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with probe with a thin or transparent membrane because it will prevent blocking of emitted ultrasound pulses from the transducers.

Therefore, it would have been an obvious matter of design choice to modify Lafon to obtain the invention as specified in claims.

Re Claim 20: Lafon further discloses the endoscopic apparatus wherein the fluid inlet and outlet openings are in the region of the transducer (the cavity of (22) where the transducer 8 is in the same region), (See Fig. 1; col. 7; line 35-41)

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Re Claim 21: Lafon discloses the endoscopic apparatus wherein the coagulation instrument has a diameter less than 1 to 5 mm, (See col. 7; line 2-5)

Re Claim 22: Lafon discloses the endoscopic apparatus is flexible (See col.7 line 59-65).

Re Claim 23: Lafon disclose the endoscopic apparatus wherein the transducer (8) is in the region of a free end of the apparatus (Lafon called that section portion 4), (See fig.4; col. 8; line 51-54).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kline-Schoder discloses multilayer ultrasonic transducer array including very thin layer of transducer elements; Crowley discloses acoustic ablation; Lele discloses electronically-controlled variable focus ultrasound hyperthermia system; Griffith discloses ultra-thin acoustic transducer and balloon catheter using same in imaging array subassembly;

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I Kenneth Kholdebarin whose telephone number is 571-270-1347. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IKK
2/5/2007



JONG SUK LEE
SUPERVISORY PATENT EXAMINER